



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/581,885	09/14/2000	Jukka Jakara	3229-4003	7120

7590

09/11/2002

Morgan & Finnegan
345 Park Avenue
New York, NY 10154

EXAMINER

ALVO, MARC S

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 09/11/2002

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/581,885

Applicant(s)

JAKARA ET AL.

Examiner

Steve Alvo

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7 and 9-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-7 and 9-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1731

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-7 and 9-16 are rejected under 35 U.S.C. 103(a) as obvious over HEBBEL in view of WO 97/45586 with or without FOSSUM.

HEBBEL teaches bleaching pulp in a 3 and 5-stage bleaching processes (Example VIII) starting with a per-compound, e.g. peracetic acid, and ending with a final (post bleaching) per compound bleaching stage. HEBBEL further teaches that a magnesium sulphate (alkaline earth compound) can be used as a complex builder or stabilizer. HEBBEL further teaches that a peracid could be used as the per compound, e.g. peracetic acid. It would have been obvious to use the peracetic acid of HEBBEL as the per compound. It would have been obvious to the routineer that after the first 4 stages of HEBBEL the brightness would be above 85% ISO and a kappa number less than 4 as HEBBEL teaches that after 4 stages the brightness is over 90% MgO (Example VII). See column 2, lines 45-49 for using 0.5 to 10 weight percent per compound. It would have been obvious to bleach the pulp at any point where pulp is normally bleached, e.g. flow pipe, storage tower or on the paper machine. Claim 6 is rejected as it would have been obvious to use other alkaline earth metal salts for the Mg of HEBBEL, see HEBBEL, column 3, line 34, for using $\text{Ca}(\text{OH})_2$ as the complex builder. WO 97/45586 teaches using a pH of 4-8 in a peracid and chelating stage stabilizes the peracid. It would have been obvious to use a pH of 4 to 8 to stabilize the peracid of HEBBEL as taught by WO 97/45586. WO 97/45586 further teaches that the pH after the peracetic acid stage is below 4, e.g. Table 2 shows final pH of 2.2 to 3.5

Art Unit: 1731

after the peracetic bleach stage. It would have been obvious to use the conditions of WO 97/45586, Table 2, to obtain low Kappa Numbers from the dissolution of lignin. If necessary it is well known that per compounds remove lignin; see HEBBEL, column 1, lines 43-45.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over HEBBEL in view of WO 97/45586 as applied to claim 1 above, and further in view of FOSSUM et al.

FOSSUM et al teaches the alternativeness of using alkaline earth sulfates and carbonates as a complex builder (chelating agent) or stabilizer in per acid bleaching. It would have been obvious to substitute the carbonate complex builder of FOSSUM et al for the sulphate complex builder of HEBBEL et al as their alternativeness is taught by FOSSUM et al. It would have been obvious to use the calcium salt (calcium carbonate) rather than the magnesium salt (Magnesium carbonate) as they are both alkaline earth metals and would be expected to be chemical equivalents. See HEBBEL et al, column 3, line 34, for using calcium salts for the complex builder.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over HEBBEL in view of WO 97/45586 as applied to claim 1 above, and further in view of ALI.

ALI teaches that in multi-stage bleach sequences inorganic peroxy acid salts could further brighten (GEB values 85 to 93) the bleached (column 12, lines 36-41 and column 13, lines 28-31) by converting any of the remaining chromophoric groups to colorless derivatives. It would have been obvious to one of ordinary skill in the art that the final per compound bleaching stage of HEBBEL, which bleaches to a brightness of over 85%, would be turning chromophoric groups in the pulp to colorless derivatives as such is taught by ALI.

Art Unit: 1731

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over HEBBEL in view of WO 97/45586 and ALI as applied to claim 17 above, and further in view of FOSSUM et al.

Claim 18 calls for separate bleaching in a bleaching plant and a post-bleaching step. SHELDON et al teaches that peroxide, one of the disclosed alternative per compound bleaching agents of HEBBEL, could be used to bleach bleached chemical pulp, before during or after the drying the pulp just prior to storage or shipment. It would have been obvious to have the final post bleaching stage of HEBBEL outside the bleach plant, e.g. during or after drying or just prior to storage or shipping, in the manner taught by SHELDON.

The argument that HEBBEL is not a “post bleaching” is not convincing as the instant specification defines “post bleaching” as “the last step of the bleaching process”, see instant specification, page 3, lines 11-16. This does not define over the final per compound bleaching stage of HEBBEL. Only claim 18 calls for a “post bleaching” after the “bleaching plant”, such would have been obvious from the teachings of SHELDON et al.

The argument that HEBBEL et al teaches using hydrogen peroxide is not convincing as the disclosure of a reference is not limited to its Examples. HEBBEL et al clearly teaches that per acids could be used as a substitute for the hydrogen peroxide (column 2, lines 30-43).

It was further argued that HEBBEL is not a “post bleaching” this is not convincing as HEBBEL et al states that the disclosed process is a “complete” bleaching of cellulose, see column 2, lines 9-10. A complete bleaching process does not require further bleaching. Thus the last per-stage of HEBBEL would be a “post-bleach” stage as it comes after the other bleaching stages.

Art Unit: 1731

Applicant has argued that the kappa number of the pulp in the final bleaching step of HEBBEL is not at a maximum of 4. Applicant has not compared the kappa No. of the pulp entering the peracid stage of HEBBEL to that of the instant process. The chlorine dioxide steps of HEBBEL would lower the Kappa No. in each of the stages. It is well known that chlorine dioxide lowers the Kappa No., see ALI, column 2, lines 25-27. Conventional Kraft pulp has a Kappa No. of 10-14, see ALI column 7, lines 33-38. The chlorine dioxide stages of HEBBEL would substantially remove all the lignin and the final per acid stage, which raises the brightness to 90% or higher, would remove the color from the remaining lignin into a colorless state, see ALI, column 2, lines 20-24.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

When filing an “Official” FAX in Group 1730, please indicate in the Header (upper right) “Official” for papers that are to be entered into the file. The “Official” FAX phone numbers for this TC 1700 are:

Non-Final Fax: (703) 872-9310 **After-Final FAX:** (703) 872-9311.

Art Unit: 1731

When filing an **"Unofficial"** FAX in Group 1730, please indicate in the Header (upper right) **"Unofficial"** for Draft Documents and other Communications with the PTO that are not for entry into the file of the application. This will expedite processing of your papers. The **"Unofficial"** FAX phone number for this Art Unit (1731) is **(703) 305-7115**.

Any inquiry concerning this communication or earlier communications from the **primary examiner** should be directed to **Steve Alvo** whose telephone number is **(703) 308-2048**. The Examiner can normally be reached on Monday - Friday from **6:00 AM - 2:30 PM (EST)**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Steve Griffin, can be reached on 703-308-1164.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Group receptionist** whose telephone number is **703-308-0661**.

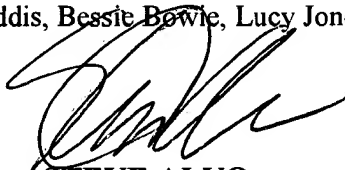
The **Customer Services Center for Technology Center 1700 (703-306-5665)** shall provide the following service assistance to external and internal customers in the areas listed below.

Services provided:

- Patent Application Filing Receipts
- Missing References
- Information regarding When Action can be Expected
- Lost/Misplaced/Requested Application retrieval
- Retrieval from PTO Publication Branch
- Retrieval from non-Publication Branch
- Status Queries (written or oral)
- Paper Matching Queries
- Certificates of Correction.
- Printer Waiting

The Customer Service Office, TC 1700, is located in CP3-8-D13, and is open to receive requests for service in person, by phone **(703) 306-5665**, or E-mail "Customer Service 1700" from 8:30 am-5:00 pm each business day. The Customer Services Center is part of the Special Programs Office of TC 1700 and will be staffed by the Technical Information Specialists who will serve as Customer Service Representatives (CSR): Carolyn E. Johnson, Marshall Gaddis, Bessie Bowie, Lucy Jones.

MSA
9/6/02



STEVE ALVO
PRIMARY EXAMINER
ART UNIT 1731